

WHAT IS CLAIMED IS:

1. An image processing apparatus for receiving an agent including an operation train via a network and allowing an image processing unit to execute image processes, comprising:

control means for controlling said image processing unit;

interpreting means for interpreting said operation train of said agent; and

message output means for outputting a message to said control means in response to said operation train interpreted by said interpreting means.

2. An apparatus according to claim 1, wherein said control means controls said image processing unit in accordance with said message outputted by said message output means.

3. An apparatus according to claim 1, wherein said agent includes data.

4. An apparatus according to claim 3, wherein said control means allows said image processing unit to perform image processes by using said data of said agent in accordance with said message outputted by said message output means.

5. An apparatus according to claim 1, wherein said control means allows information of said image processing unit to be outputted in accordance with said message outputted by said message output means.

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6. An apparatus according to claim 2, wherein said control means controls said image processing unit on the basis of an operation train of a control agent including said operation train.

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7. An apparatus according to claim 6, wherein said control agent is resident in said image processing apparatus.

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8. An apparatus according to claim 1, further comprising:

a plurality of image processing units; and  
said control means provided for each of said image processing units.

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9. An apparatus according to claim 1, wherein an identifier to identify said control means is added to said operation train, and  
said message output means outputs said message to  
said control means shown by said identifier.

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10. An apparatus according to claim 1, further

comprising transmitting means for transmitting said agent to another apparatus via the network, and

wherein said operation train includes an operation to move said agent to the other apparatus by said transmitting means.

11. An apparatus according to claim 1, wherein said operation train of said agent includes an operation to use data which was image-processed by said image processing unit as said data of said agent.

12. An apparatus according to claim 1, wherein said operation train of said agent includes an operation of a conditional loop.

13. An apparatus according to claim 1, wherein said operation train of said agent includes an operation of a condition branch.

14. An apparatus according to claim 1, wherein said agent has a pointer to indicate a certain operation in said operation train.

15. An apparatus according to claim 14, wherein said interpreting means interprets the operation indicated by said pointer, and after the interpretation of said operation was

finished, said pointer indicates a next operation.

16. An apparatus according to claim 1, wherein when  
the interpretation of a series of operation train in  
5 the operation train of said agent is finished, said  
interpreting means extinguishes said agent.

17. An apparatus according to claim 1, wherein said  
interpreting means interprets a plurality of said  
10 agents in parallel.

18. An apparatus according to claim 1, further  
comprising decoding means for decoding said encoded  
agent which was received via the network.  
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19. An apparatus according to claim 10, further  
comprising encoding means for encoding said agent, and  
wherein said transmitting means transmits said  
encoded agent.  
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20. An apparatus according to claim 1, wherein said  
image processing unit is an engine controller.

21. An apparatus according to claim 1, wherein said  
25 image processing unit is a printer engine.

22. An apparatus according to claim 1, wherein said

image processing unit is a scanner engine.

23. A control method of receiving an agent  
including an operation train via a network and allowing  
5 an image processing unit to execute image processes,  
comprising:

a control step of controlling said image  
processing unit;

an interpreting step of interpreting said  
10 operation train of said agent; and

a message output step of outputting a message to  
said control step in response to said operation train  
interpreted by said interpreting step.

15 24. A method according to claim 23, wherein in said  
control step, said image processing unit is controlled  
in accordance with said message outputted by said  
message output step.

20 25. A method according to claim 23, wherein said  
agent includes data.

26. A method according to claim 25, wherein in said  
control step, said image processing unit is allowed to  
25 perform image processes by using said data of said  
agent in accordance with said message outputted by said  
message output step.

27. A method according to claim 23, wherein in said control step, information of said image processing unit is outputted in accordance with said message outputted by said message output step.

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28. A method according to claim 24, wherein in said control step, said image processing unit is controlled on the basis of an operation train of a control agent including said operation train.

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29. A method according to claim 23, further comprising:

a plurality of image processing units; and  
said control step provided for each of said image  
15 processing units.

30. A method according to claim 23, wherein  
an identifier to identify said control step is  
added to said operation train, and  
20 in said message output step, said message is  
outputted to said control step shown by said  
identifier.

31. A method according to claim 23, further  
25 comprising a transmitting step of transmitting said  
agent to another apparatus via the network, and  
wherein said operation train includes an operation

to move said agent to the other apparatus by said transmitting step.

32. A method according to claim 23, wherein said  
5 operation train of said agent includes an operation to use data which was image-processed by said image processing unit as said data of said agent.

33. A method according to claim 23, wherein said  
10 operation train of said agent includes an operation of a conditional loop.

34. A method according to claim 23, wherein said  
15 operation train of said agent includes an operation of a condition branch.

35. A method according to claim 23, wherein said  
20 agent has a pointer to indicate a certain operation in said operation train.

36. A method according to claim 35, wherein  
in said interpreting step, the operation indicated by said pointer is interpreted, and  
after the interpretation of said operation was  
25 finished, said pointer indicates a next operation.

37. A method according to claim 23, wherein when

the interpretation of a series of operation train in the operation train of said agent is finished, said agent is extinguished in said interpreting step.

5        38. A method according to claim 23, wherein a plurality of said agents are interpreted in parallel in said interpreting step.

10        39. A method according to claim 23, further comprising a decoding step of decoding said encoded agent which was received via the network.

15        40. A method according to claim 31, further comprising an encoding step of encoding said agent, and wherein said encoded agent is transmitted in said transmitting step.

20        41. A method according to claim 23, wherein said image processing unit is an engine controller.

42. A method according to claim 23, wherein said image processing unit is a printer engine.

25        43. A method according to claim 23, wherein said image processing unit is a scanner engine.

44. A storage medium in which a control program for



receiving an agent including an operation train via a network and allowing an image processing unit to execute image processes has been stored, wherein said control program comprises:

5           a control step of controlling said image processing unit;

          an interpreting step of interpreting said operation train of said agent; and

          a message output step of outputting a message to  
10       said control step in response to said operation train interpreted by said interpreting step.

          45. A medium according to claim 44, wherein in said control step, said image processing unit is controlled  
15       in accordance with said message outputted by said message output step.

          46. A medium according to claim 44, wherein said agent includes data.

20           47. A medium according to claim 46, wherein in said control step, said image processing unit is allowed to perform image processes by using said data of said agent in accordance with said message outputted by said  
25       message output step.

          48. A medium according to claim 44, wherein in said

control step, information of said image processing unit is outputted in accordance with said message outputted by said message output step.

5        49. A medium according to claim 45, wherein in said control step, said image processing unit is controlled on the basis of an operation train of a control agent including said operation train.

10       50. A medium according to claim 44, wherein said control program further comprises:  
         a plurality of image processing units; and  
         said control step provided for each of said image processing units.

15       51. A medium according to claim 44, wherein  
         an identifier to identify said control step is added to said operation train, and  
         in said message output step, said message is  
20       outputted to said control step shown by said identifier.

         52. A medium according to claim 44, wherein said control program further comprises a transmitting step  
25       of transmitting said agent to another apparatus via the network, and  
         said operation train includes an operation to move

said agent to the other apparatus by said transmitting step.

53. A medium according to claim 44, wherein said  
5 operation train of said agent includes an operation to use data which was image-processed by said image processing unit as said data of said agent.

54. A medium according to claim 44, wherein said  
10 operation train of said agent includes an operation of a conditional loop.

55. A medium according to claim 44, wherein said  
operation train of said agent includes an operation of  
15 a condition branch.

56. A medium according to claim 44, wherein said  
agent has a pointer to indicate a certain operation in  
said operation train.

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57. A medium according to claim 56, wherein  
in said interpreting step, the operation indicated  
by said pointer is interpreted, and  
after the interpretation of said operation was  
25 finished, said pointer indicates a next operation.

58. A medium according to claim 44, wherein when

the interpretation of a series of operation train in the operation train of said agent is finished, said agent is extinguished in said interpreting step.

5           59. A medium according to claim 44, wherein a plurality of said agents are interpreted in parallel in said interpreting step.

10           60. A medium according to claim 44, wherein said control program further comprises a decoding step of decoding said encoded agent which was received via the network.

15           61. A medium according to claim 52, wherein said control program further comprises an encoding step of encoding said agent, and  
              said encoded agent is transmitted in said transmitting step.

20           62. A medium according to claim 44, wherein said image processing unit is an engine controller.

              63. A medium according to claim 44, wherein said image processing unit is a printer engine.

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              64. A medium according to claim 44, wherein said image processing unit is a scanner engine.